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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Shigemasa HIROOKA et al.

Group Art Unit: 3748

Application No.: 10/617,869

Examiner: D. Tran

Filed: July 14, 2003

Docket No.: 115729

For: EXHAUST GAS PURIFYING DEVICE OF INTERNAL COMBUSTION ENGINE
AND METHOD THEREFORE

REQUEST FOR RECONSIDERATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In reply to the March 9, 2004 Office Action, reconsideration of the application is respectfully requested in light of the following remarks.

Claims 1-9 are pending in this application.

I. Claim Rejections under 35 U.S.C. §102/§103

Claims 1, 5-7 and 9 are rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,946,907 to Nagaishi et al. ("Nagaishi"); and claims 2-4 and 8 are rejected under 35 U.S.C. §103(a) as unpatentable over Nagaishi. The rejections are respectfully traversed.

Applicants assert that Nagaishi does not disclose or suggest each and every feature recited in the pending claims. For example, Nagaishi does not disclose or suggest an exhaust gas purification device of an engine, comprising *intra alia* . . . a controller that determines a degree of the warm-up of the catalyst, calculates a criterion output based on the determined degree of warm-up of the catalyst, detects an output of the engine, and stops injection of the

secondary air with an injection stop device provided that the determined degree of the warm-up is greater than or equal to a predetermined criterion degree of the warm-up, and the detected output of the engine is greater than or equal to the calculated criterion output.

Rather, Nagaishi controls the supply of secondary air to a catalyst by detecting the start-up of an engine, detecting the temperature of engine cooling water and determining that the catalyst is active when the cooling water temperature, after engine start-up, reaches a predetermined temperature. These determinations are controlled by a control unit 13 which comprises a personal computer. Signals from a starter switch 17 detect the operation of the starter motor that starts the engine, a water temperature sensor 18 detects the water temperature of the engine and an oxygen sensor 21 detects oxygen concentration in the exhaust passage 3 (col. 4, lines 34-39). Based on these signals, the control unit 13 determines whether the catalyst 4 in the catalytic converter has become active after start-up of the engine 1. Depending on the determination result, secondary air is supplied to the exhaust passage 3 or the supply is cut off according to the signals output to the electromagnetic valve 14 and switch 20 (col. 4, lines 40-45).

The secondary air is supplied and catalyst pre-activation control is performed until the cooling water temperature T_w (cooling water temperature of the engine) reaches the catalyst activation cooling water temperature T_{we} . When the catalyst activation cooling temperature T_{we} is reached, supply of secondary air is stopped and air-fuel ratio is switched over to λ control (col. 5, lines 54-60).

Accordingly, Nagaishi does not disclose stopping the secondary air operation in accordance with the output of the engine, but rather controls supply of secondary air when the cooling water temperature, after engine start-up, reaches a pre-determined temperature in which the catalyst is active. Thus, Applicants respectfully request the rejection of claims 1, 5-

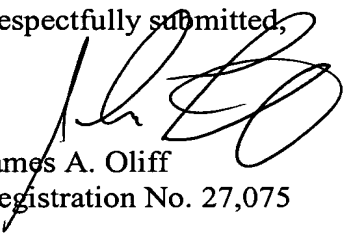
7 and 9 under 35 U.S.C. §102(b), and the rejection of claims 2-4 and 8 under 35 U.S.C. §103(a), be withdrawn.

II. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-9 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,


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JAO:JWF/ldg

Date: June 3, 2004

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